

Claims

1. A valve for controlling fluids that are at high pressure, having a valve seat region (5), at which a high-pressure region (6, 23) and a low-pressure region (7) can be made to communicate with one another or can be disconnected from one another, and having a valve body (2), at which a seat face (29) is embodied for a conical valve member (3), and the seat face (29) extends in inclined fashion in the valve body (2), characterized in that the conical valve member (3) has a multiconical geometry (19) in the valve seat region (5), having at least one first conical face (20) and one second conical face (21), and the first conical face (20) has a seat angle difference (18, 18a) from the seat face (29) of the valve body (2).

2. The valve in accordance with claim 1, characterized in that the second conical face (21) of the multiconical geometry (19) has a further seat angle difference (27) that exceeds the seat angle difference (18, 18a) of the first conical face (20).

3. The valve in accordance with claim 1, characterized in that the valve needle (3) is the valve member of an inward-opening valve (22) of an outward-opening valve (37).

4. The valve in accordance with claim 2, characterized in that the sealing edge (8) coincides with an encompassing edge (11, 12; 32, 33) of the valve needle (3), and conical face portions extend radially inward and radially outward from the sealing edge

(8) and have different seat angle differences (18, 18a) from the seat face (29) in the valve body (2).

5. The valve in accordance with claims 1 and 3, characterized in that the seat angle difference (18, 18a) between the first conical face (20) and the seat face (29) of the valve body (2) is less than 5°.

6. The valve in accordance with claim 1, characterized in that a pocketlike recess (36) is embodied in the seat face (29) of the valve body (2) of the inward-opening valve (22), or in the seat face (29) of the outward-opening valve (37).

7. The valve in accordance with claim 1, characterized in that the sealing edge (8) coincides with one of the encompassing edges (11, 12; 32, 33) of the multiconical geometry (19) and is located between the first conical face (20) and the second conical face (21).

8. The valve in accordance with claim 7, characterized in that the seat angle difference (18, 18a) at the first conical face (20) is embodied as extending radially outward.

9. The valve in accordance with claim 1, characterized in that the sealing edge (8) is embodied as an edge of a seat face (29) of the valve body (2).

10. The valve in accordance with claim 1, characterized in that the sealing edge (8) is located between the seat face (29) and a chamfer (38) embodied on the valve body (2), and the chamfer (38) has the seat angle difference (18, 18a) from the seat face (29).